

We claim:

1. An identification document, comprising:
 - a printable layer;
 - a computer readable data storage element formed on the printable layer, the
 - 5 computer readable data storage element comprising a plurality of pixels, wherein each pixel has one of a predetermined plurality of colors;
 - a computer readable calibration element formed on the printable layer, the calibration element comprising a plurality of pixels and the calibration element including information enabling a determination of the pixel size in the computer readable data
 - 10 storage element and also a determination of at least a portion of the predetermined plurality of colors.
2. The identification document of claim 1, wherein the computer readable data storage element and the computer readable calibration element are printed using the same type of printing.
- 15 3. The identification document of claim 1, wherein the printing is laser engraving.
4. The identification document of claim 3, wherein at least one of the pixels in the computer readable data storage element is capable of being changed after printing by application of additional laser radiation to the pixel.
5. The identification document of claim 4, wherein the change is at least one of
- 20 darkening the pixel and clearing the pixel.
6. The identification document of claim 1, wherein the pixels of the computer readable data storage element are spaced apart from each other by one or more predetermined pixel spacings and where the computer readable data calibration element further comprises information enabling a determination of at least one of the pixel
- 25 spacings.

7. The identification document of claim 1, wherein at least one of the computer readable data storage element and the computer readable calibration element is positioned at a predetermined location on the printable layer.

8. The identification document of claim 1, wherein the computer readable calibration element is disposed near the computer readable data storage element.

9. The identification document of claim 1, wherein the identification document further comprises personalized data printed to the printable layer and wherein the computer readable data storage element comprises data associated with at least a portion of the personalized data.

10. The identification document of claim 1, wherein the computer readable data storage element comprises encrypted data.

11. A system for providing a printed computer readable data storage element on document, comprising:

a printable document substrate;

15 a computer readable array of pixels printed on the document substrate; and
means formed on the printable document substrate for calibrating the intensity of each pixel in the computer readable array of pixels.

12. The system of claim 10, further comprising means formed on the printable document substrate for determining the size of each pixel in the computer readable array
20 of pixels.

13. The system of claim 10, further comprising means formed on the printable substrate for determining the spacing between the pixels in the computer readable array of pixels.

14. A method for providing a printed computer readable data element to a document,
25 comprising:

printing a first plurality of pixels to a first location on a document, each pixel having a pixel intensity, each pixel intensity associated with a respective piece of data;

printing a second plurality of pixels to second location on the document, the second plurality of pixels comprising at least one pixel associated with each possible
5 pixel intensity;

printing a third plurality of pixels to a third location on the document, the third plurality of pixels comprising a pair of pixels spaced apart and capable of being scanned by a scanner; and.

printing a fourth plurality of pixels to a fourth location on the document, the
10 fourth plurality of pixels spaced a predetermined distance from the second and third pluralities of pixels, the fourth plurality of pixels serving to reference the locations of the second and third pluralities of pixels.

15. The method of claim 14, wherein the first plurality of pixels can be interpreted by first scanning at least one of the second, third, and fourth pluralities of pixels.

15 16. The method of claim 14, further comprising printing a reference pixel to a fourth location on the document, the reference pixel spaced a predetermined distance from the fourth plurality of pixels and from the first plurality of pixels, the reference pixel helping to define at least one predetermined pixel intensity.

20 17. The method of claim 14, wherein the pixels in each plurality are printed by laser engraving.

18. The method of claim 17, wherein at least one of the pixels in the first plurality can be changed by applying additional laser radiation to the pixel.

19. The method of claim 18, wherein the additional laser radiation darkens the pixel.

20. The method of claim 18, wherein the additional laser radiation clears the pixel.